

Work Order ID 144840

Tuesday, April 26, 2016 9:24:41 AM

144840

Page 1

Item ID: D3436-044 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Step RH
 Start Date: 5/2/2016 Start Qty: 2.00 ***2*** Cust Item ID:
 Required Date: 5/11/2016 Req'd Qty: 2.00 ***2*** Customer:
 Reference:

Approvals: Process Plan: *SM* *SA* Date: 16/04/26 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3436	Rev A								

100

0.00

1000

Large Fab

Large Fab

Large Fab

Memo

2.04

Weld bushings D3436-5 and clamp D3436-1 using welding Jig DT8772 and

Dwg D3436Dwg Rev: A

Qty	Part Number	Description	Batch
A/RN/A	4130	Welding Rod	<u>127925</u>

Weld right step D3436-4 using welding Jig DT8773 and Dwg D3436Dwg

Rev: A

Qty	Part Number	Description	Batch
A/RN/A	4130	Welding Rod	<u>127925</u>

Weld cap D3436-7 as per Dwg D3436Dwg Rev: A

Qty	Part Number	Description	Batch
A/RN/A	4130	Welding Rod	<u>127925</u>

2

16-06-20
JM

Work Order ID 144840

Tuesday, April 26, 2016 9:24:41 AM

144840

Page 3

Item ID: D3436-044

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Step RH

Start Date: 5/2/2016 Start Qty: 2.00

2

Cust Item ID:

Required Date: 5/11/2016 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

NR1

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	White Gloss(Ref:4.3.5.2) per QSI005 4.3-Steel	0.00							
140	<i>M 134631</i>								
Powdercoat	Memo	0.28							
Powder Coating	START TIME: <i>2:25</i> OVEN TEMPERATURE: <i>400°</i> FINISH TIME: <i>2:55</i>								
145	Wing Walk as per dwg QSI005 4.4 Batch <i>N1134497</i>	0.00							
145									
HandFinish	Memo	1.18							
Hand Finishing	Wing Walk B <i>N1134497</i>								
150	QC3- Inspect Part Finish	0.00							
150									
QC	Memo	0.04							
Quality Control									

2 0 16-06-21. 233

2X134 d M 16/06/21

2 FF JUN 27 2016

Tuesday, April 26, 2016 9:24:41 AM

1 44840

Page 4

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

?

?

Customer:

Reference:

Run Start *NR1*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop *NR2*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

155

0.00

155

0.60

Small Fab

Memo

Small Fab

Bond pads per dwg and QSI 015

160

QC5- Inspect part completeness to step on W/O	0.00
---	------

0.00

160

0.04

QC

Memo

Quality Control

170

Identify as per dwg & Stock Location: 51030 0.00

0.00

170

0.60

Packaging

Memo

Packaging

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Page 5

Item ID: D3436-044

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Step RH

Start Date: 5/2/2016 Start Qty: 2.00

2

Cust Item ID:

Required Date: 5/11/2016 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run

Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

180

QC21- Final Inspection - Work Order Release

0.00

180

QC

Memo

0.04

Quality Control

MCS

JUN 23 2016

MCS

JUN 22 2016

Picklist Print

Tuesday, April 26, 2016 9:24:51 AM

Page 1

Work Order ID: 144840

144840

Parent Item: D3436-044

D3436-044

Parent Item Name: Step RH

Start Date: 5/2/2016

Required Date: 5/11/2016

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP A 05.05.11New IssueKJ/JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3436-5 *D3436-5* Bushing		Manufactured	No			100	Each	8.0000	4	8			16-06-16 JSL
										★★			
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				WA002	E145520		8			6			
					130580		8			2			
D3436-7 *D3436-7* Cap		Manufactured	No			100	Each	16.0000	1	2			16-06-16 JSL
										★★			
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				WA002			16			2			
					130593		16			2			
D3436-9 *D3436-9* Pad		Manufactured	No			100	Each	3.0000	2	4			JUN 22 2016
										★★			
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				GA	144841		3			2			
					105682		3			2			
D3436-4 *D3436-4* Right Step		Manufactured	No			100	Each	3.0000	1	2			16-06-16 JSL
										★★			
				<u>Location</u>			<u>Loc Qty</u>		<u>Loc Code</u>				
				WA001			3			2			
					126857		3			2			

Picklist Print

Page 2

Tuesday, April 26, 2016 9:24:51 AM

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Parent Item: D3436-044

D3436-044

Parent Item Name: Step RH

Start Date: 5/2/2016

Required Date: 5/11/2016

Start Qty: 2.00

Required Qty: 2.00

D3436-1

Manufactured No

155

Each

11.0000

1

2

D3436-1

16-06-16/152

Clamp

Location

Loc Qty

Loc Code

WA002

11

96663

11

2

Tuesday, April 26, 2016 9:24:51 AM

Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

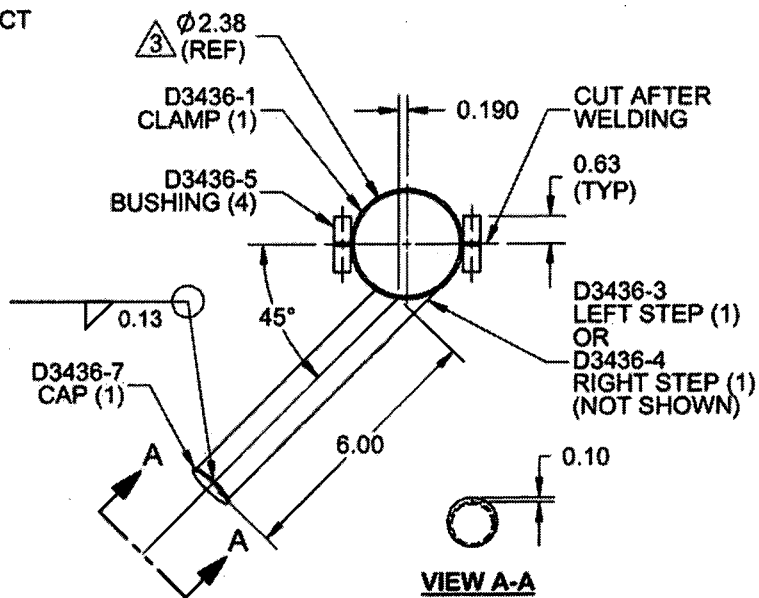
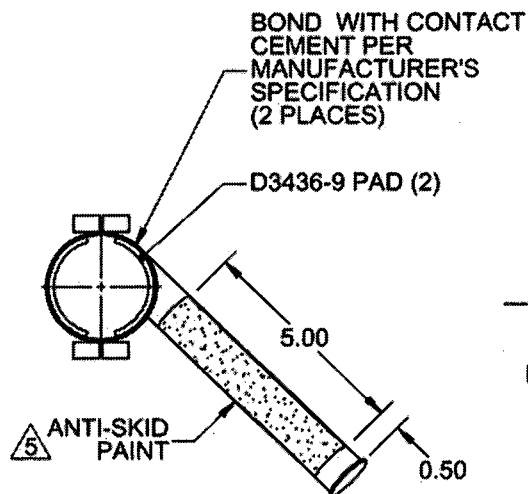
QA Closed: _____ Date: _____

Work Order update only ☐

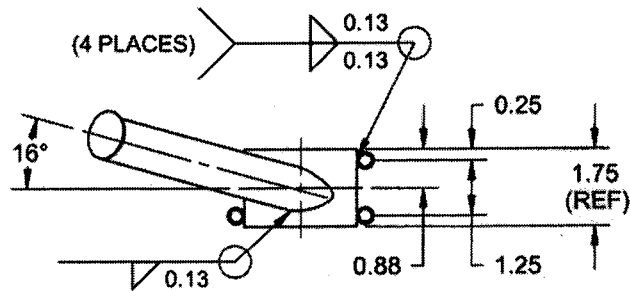
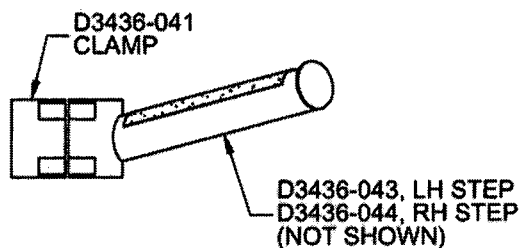
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;"></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																	
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Date :	Step #:	QTY Effective :		MRB (QSI042) Approval																																																																	
Description Work Order Deviation			Disposition																																																																		
			Completed By																																																																		
			Lead hand / Supervisor Approval Verification																																																																		
			QC / QA Coordinator Approval																																																																		
Root Cause <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Environment ☐</td> <td style="border: none;">No Re-verification ☐</td> </tr> <tr> <td style="border: none;">Design ☐</td> <td style="border: none;">Operator ☐</td> </tr> <tr> <td style="border: none;">Doc/Data ☐</td> <td style="border: none;">Offset/Setup ☐</td> </tr> <tr> <td style="border: none;">Equip/Tooling ☐</td> <td style="border: none;">Supplier ☐</td> </tr> <tr> <td style="border: none;">Handling/Pre ☐</td> <td style="border: none;">Training ☐</td> </tr> <tr> <td style="border: none;">Material ☐</td> <td style="border: none;">Use for Testing ☐</td> </tr> <tr> <td style="border: none;">Internal Transport ☐</td> <td style="border: none;">Poor Information ☐</td> </tr> <tr> <td style="border: none;">Tribal Knowledge ☐</td> <td style="border: none;">Rushing ☐</td> </tr> <tr> <td style="border: none;">LOA ☐</td> <td style="border: none;">Product Improvement ☐</td> </tr> <tr> <td style="border: none;">Substation ☐</td> <td style="border: none;">Process Improvement ☐</td> </tr> <tr> <td style="border: none;">Past Expiry Date ☐</td> <td style="border: none;">Manufacturing Process ☐</td> </tr> <tr> <td style="border: none;">Misidentified ☐</td> <td style="border: none;">Past Due ☐</td> </tr> </table>			Environment ☐	No Re-verification ☐	Design ☐	Operator ☐	Doc/Data ☐	Offset/Setup ☐	Equip/Tooling ☐	Supplier ☐	Handling/Pre ☐	Training ☐	Material ☐	Use for Testing ☐	Internal Transport ☐	Poor Information ☐	Tribal Knowledge ☐	Rushing ☐	LOA ☐	Product Improvement ☐	Substation ☐	Process Improvement ☐	Past Expiry Date ☐	Manufacturing Process ☐	Misidentified ☐	Past Due ☐	FAULT CATEGORY <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Pressure/Forced ☐</td> <td style="border: none;">Temperature/Cure ☐</td> <td style="border: none;">Power Loss/Surge ☐</td> <td style="border: none;">Positioned Wrong ☐</td> </tr> <tr> <td style="border: none;">Bending ☐</td> <td style="border: none;">Set-up ☐</td> <td style="border: none;">Folio/Program ☐</td> <td style="border: none;">Outside Dimensions ☐</td> </tr> <tr> <td style="border: none;">Centre Not Concentric ☐</td> <td style="border: none;">BOM/Route ☐</td> <td style="border: none;">Grain ☐</td> <td style="border: none;">Over/Under tolerance ☐</td> </tr> <tr> <td style="border: none;">Cracks ☐</td> <td style="border: none;">Broken/Damage/Defect ☐</td> <td style="border: none;">Weld ☐</td> <td style="border: none;">Part Incorrect ☐</td> </tr> <tr> <td style="border: none;">Crimp/Kink/Ripple/Wave ☐</td> <td style="border: none;">Inspection Incomplete/Unqualified ☐</td> <td style="border: none;">Wrong Stock Pulled ☐</td> <td style="border: none;">Part Lost/Missing ☐</td> </tr> <tr> <td style="border: none;">Cuffs ☐</td> <td style="border: none;">Contamination ☐</td> <td style="border: none;">Out of Sequence ☐</td> <td style="border: none;">Part Moved ☐</td> </tr> <tr> <td style="border: none;">Crushing ☐</td> <td style="border: none;">Countersink ☐</td> <td style="border: none;">Off-set ☐</td> <td style="border: none;">Drawing ☐</td> </tr> <tr> <td style="border: none;">Heat Treat ☐</td> <td style="border: none;">Cut Too Short ☐</td> <td style="border: none;">Mislabeled ☐</td> <td style="border: none;">Finish ☐</td> </tr> <tr> <td style="border: none;">Wave/Twist in Tube ☐</td> <td style="border: none;">Instructions Incomplete/Unclear ☐</td> <td style="border: none;">Fit/Function ☐</td> <td style="border: none;">Misread ☐</td> </tr> <tr> <td style="border: none;">Marks/Chatter ☐</td> <td style="border: none;">Drill Holes ☐</td> <td style="border: none;">Misaligned/off center ☐</td> <td style="border: none;">Turning Sequence ☐</td> </tr> </table>			Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
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OTHER : ☐																																																																					



DESIGN MB	DRAWN BY MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO. D3436
DATE 05.04.28	TITLE MAINTENANCE STEP	REV. A SHEET 1 OF 4
A	05.04.28	SCALE 1:4 NEW ISSUE



VIEW A-A



WELDING

RELEASED

05.05.27

NOTES:

- 1) POSITION PARTS AS PER JIGS DT8772 AND DT8773
- 2) WELD PER DART QSI 004
- 3) FILLET BOTH TOP AND BOTTOM EDGES OF CLAMP ALONG 2.38 I.D. SECTION TO 0.03 RADIUS TO PREVENT SCORING AND SCRATCHING OF SKID CROSS TUBE
- 4) FINISH: POWDER COAT WHITE GLOSS (4.3.5.2) PER DART QSI 005 4.3
- 5) APPLY BLACK ANTI-SKID PAINT AS SHOWN PER DART QSI 005 4.4
- 6) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 7) ALL DIMENSIONS ARE IN INCHES

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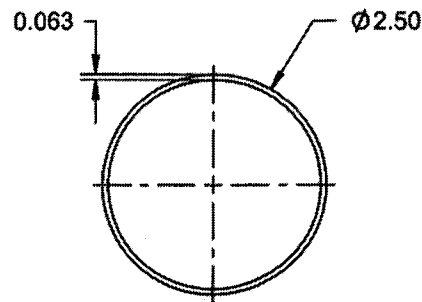
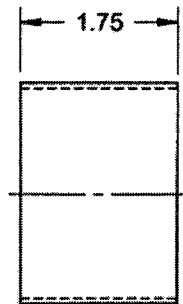
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u/o 144840

dm 16/04/26

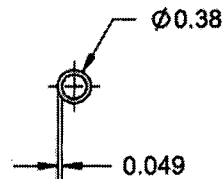
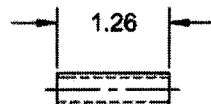


DESIGN MB	DRAWN BY MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3436	REV. A SHEET 2 OF 4
DATE 05.04.28		TITLE MAINTENANCE STEP	SCALE 1:2



D3436-1 CLAMP

- 1) MATERIAL: AISI 4130N STEEL TUBING PER MIL-T-6736, AMS 6371, 6360, 6361, 6362, 6373 OR 6374 (REF. DART SPEC. M4130N-T2500W063)



D3436-5 BUSHING

- 2) MATERIAL: AISI 4130N STEEL TUBING PER MIL-T-6736, AMS 6371, 6360, 6361, 6362, 6373 OR 6374 (REF. DART SPEC. M4130N-T0375W049)

RELEASED

05-05-27 *[Signature]*

D3436-1/-5, GENERAL NOTES:

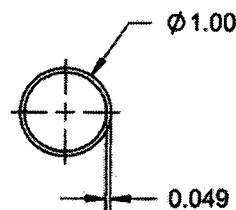
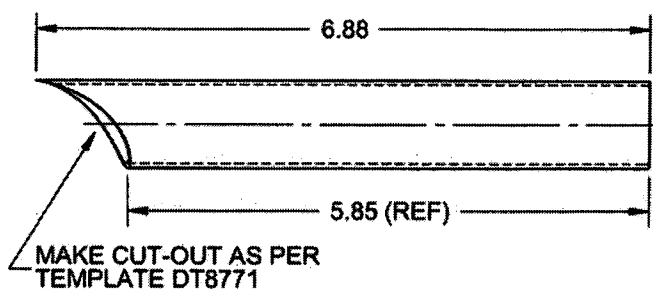
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES
5) BREAK ALL SHARP EDGES 0.005 TO 0.010

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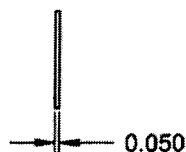
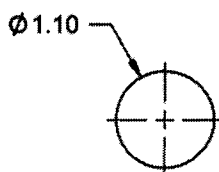
DART

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CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3436	REV. A SHEET 3 OF 4
DATE 05.04.28		TITLE MAINTENANCE STEP	SCALE 1:2

**D3436-3 LEFT STEP**

(D3436-4 RIGHT STEP - OPPOSITE, NOT SHOWN)

- 1) MATERIAL: AISI 4130N STEEL TUBING PER MIL-T-6736, AMS 6371, 6360, 6361, 6362, 6373 OR 6374 (REF. DART SPEC. M4130N-T1000W049)

**D3436-7 CAP**

- 2) MATERIAL: AISI 4130N STEEL SHEET PER MIL-S-18729, AMS6350 OR AMS 6351 (REF. DART SPEC. M4130N-S050)

RELEASED05-05-27 *[Signature]***D3436-3/ -7, GENERAL NOTES:**

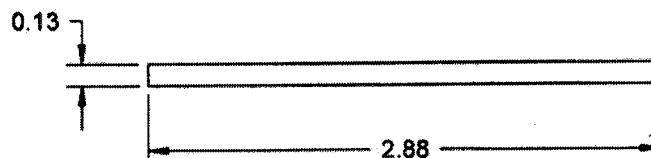
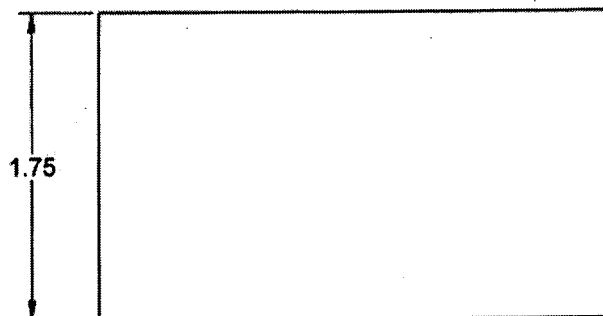
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
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DESIGN MB	DRAWN BY MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D3436	REV. A SHEET 4 OF 4
DATE 05.04.28		TITLE MAINTENANCE STEP	SCALE 1:1



RELEASED
05.05.27 [Signature]

D3436-9 PAD

NOTES:

- 1) MATERIAL: 60 DUROMETER NEOPRENE SHEET, 1/8" THICK
(REF. DART SPEC. M-NEO60-S.125)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

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